



Tennessee Breastfeeding Hotline Quarterly Report

Submitted to:

State of Tennessee, Department of Health

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October 2016



Executive Summary

July to September 2016

The Tennessee Breastfeeding Hotline (TBH) is a telephonic breastfeeding support program that is free to nursing mothers, their families and partners, expectant parents, and to health care providers. Participants who call the Tennessee Breastfeeding Hotline speak with a certified lactation professional who collects the mother's and baby's information using self-reporting techniques. This information is gathered for the purpose of making assessments, attending to the client's individual needs, referring the client to available resources and ensuring that the lactation professional is able to follow-up with the client.

Lactation professionals offer strategies to empower clients to breastfeed, identify barriers to successful breastfeeding, and provide techniques to cope with and overcome barriers to breastfeeding. Participants receive individualized counseling for common breastfeeding issues. If the caller's issues are beyond the scope of the lactation professional's expertise, or require treatment, the mother is directed to a health care provider or an outside agency better able to offer the necessary support. Some participants receive a 24 hour follow-up call, if the caller's situation requires additional support and encouragement.

The measurement period for this report is July 2016 through September 2016, but the report may make comparisons to previous quarters. Lactation professionals collected quantitative data through the use of a conditional questioning workflow. These workflow data analyzed characteristics such as breastfeeding trends, call volume and repetition, and patterns in caller's age, race, and ethnicity. After the initial call, TBH also conducts follow-up calls that occur at 4, 8, and 12 weeks to assess self-reported outcomes and client satisfaction with services. Over the course of the measurement period, these data are collected to aid in the construction of a continuous quality improvement plan, vital in ensuring the sustainability and productiveness of the TBH.

Participants receive follow-up calls at 4, 8 and 12 weeks for two purposes. First, it is to encourage the women to continue breastfeeding. In Tennessee, the percentage of breastfed infants that were supplemented with formula before three months was 26.5%.¹ During this quarter, there were a total of 1,539 calls to the TBH. When asked about intention to continue breastfeeding, 98% responded that they intended to continue breastfeeding (pg. 21, Table 14A). At 4-week follow-up, 86.1% of the moms stated they were still breastfeeding (pg. 21, Table 14B).

The second purpose of the three follow-up calls is to acquire necessary information used to determine the effectiveness and quality of the program from the viewpoint of the user. For each follow-up call, clients are

¹ Nutrition, Physical Activity and Obesity Data, Trends and Maps web site. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity and Obesity, Atlanta, GA, 2015. Available at <http://www.cdc.gov/nccdphp/DNPAO/index.html>.

asked to rate overall services received from the TBH. During this quarter, 99.2% of the callers at the 4-week follow-up and 99% of callers at the 8-week follow-up reported being satisfied or very satisfied with services received (pg. 23, Table 15). High satisfaction of services remained at 12-week follow-up as well. When asked about the likelihood to recommend TBH services to another person, 99.1% of callers at 4 weeks and 99% of callers at 8 weeks reported that they were likely to refer someone else to the hotline (pg. 23, Table 15).

Clients are welcome to call the hotline any time they need support, regardless of language barriers. An auto attendant greets callers in both English and Spanish. Interpretive services are available for more than 200 languages. Special operators are available to assist hearing-impaired callers.

Data Limitations

TBH understands and balances the need to provide an important service as well as the need to collect data for evaluation. TBH staff attempt to capture complete information from all of its callers. However, missing data during the initial and follow-up calls may be present due to TBH's priority to high quality service, repeat callers, or non-response from a caller. Also, TBH is available to a wide range of individuals who may seek breastfeeding support, so some questions may not be applicable to all callers.

Introduction

Breastfeeding is widely accepted as an effective strategy to promote positive health outcomes for both mothers and their babies. Despite growing data on these benefits, 28.9% of babies born in Tennessee in were never breastfed, according to the Centers for Disease Control and Prevention's most recent Breastfeeding Report Card². By the time they reached 6 months of age, the proportion of Tennessee mothers continuing to breastfeed decreased from 71.1% to 42.5%. Tennessee rates for breastfeeding initiation and six months duration are lower than Healthy People 2020's goal of 81.9% and 60.6%, respectively.

This report was created to examine how the TBH is currently fostering the healthy development of children by promoting and supporting the practice of breastfeeding in Tennessee. By addressing common barriers to breastfeeding in the state, the hotline reinforces the national goal of higher breastfeeding rates, over longer periods of time. Prevalent barriers to breastfeeding include³:

- Lack of knowledge
- Lactation problems
- Poor family and social support
- Social norms
- Embarrassment
- Employment and child care
- Health services

The TBH addresses these obstacles in a multifaceted approach designed around the individual needs of each client. The primary medium for doing so is through International Board Certified Lactation

² Center for Disease Control, Breastfeeding Report Card. <https://www.cdc.gov/breastfeeding/pdf/2016breastfeedingreportcard.pdf>

³ U.S. Department of Health and Human Services. Executive Summary: The Surgeon General's Call to Action to Support Breastfeeding. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; January 20, 2011.

Consultants (IBCLC) and/or Certified Lactation Counselors (CLC). These lactation professionals answer questions and provide information about:

- Inadequate milk production
- Nursing rejection by baby
- Breast or nipple pain
- Medications and breastfeeding
- Working and breastfeeding
- Breast pumps and rentals
- Breastfeeding in public
- Tennessee laws that relate to breastfeeding
- Weaning
- State-approved online breastfeeding support groups
- State-approved online breastfeeding resource material

The topics of information covered by the lactation professionals acknowledge the barriers to breastfeeding experienced by women nationally.

Caller Demographics

The target population of the TBH includes nursing mothers, their families and partners, expectant parents, and health care providers. During this 1st quarter, 74.7% of the callers were white, 18.9% were black, and 2.9% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. About 4% of callers were of multiple or mixed race (pg. 15, Table 9B). According to the United States Census Bureau, 78% of Tennessee residents are white, 16.8% are black, and 1.9% are Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Close to 2% of Tennessee residents are of multiple or mixed race.⁴ Hispanic women comprised 4.6% call volume this quarter (pg. 16, Table 9C). When examining age, the hotline received the highest proportion of calls (42.8%) from callers between the ages of 26 and 30 (pg. 15, Table 9A).

Notable Findings

For the first time, the TBH received over 500 calls each month, marking near-record call volume this quarter.

At a local latch on event, a mother who had used the hotline previously came up to the TBH booth to share how important the hotline was to her, saying that if she had not received the support at the time she called, she would not have continued to breastfeed. Instead, the woman was able to breastfeed her child for a year. Many other mothers stopped by the booth to express their satisfaction with the TBH and how the support they received from the hotline has helped them with breastfeeding.

This quarter, TBH staff reviewed an interesting case study at a recent staff meeting regarding a recent call about prolactinoma. A prolactinoma is a type of benign pituitary tumor (adenoma) that produces an excessive amount of the hormone prolactin. Prolactinomas are the most common type of hormonally-active

⁴ U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, Accessed: Monday, 1-Aug-2016 9:49:00 EDT

pituitary tumors. Julie Bridger was the lactation professional who took this call, and subsequently offered to present this case study and researched prolactinomas to inform other TBH staff.

The mother that called the TBH had been diagnosed with prolactinoma and called TBH inquiring how long her engorgement might last. The mother currently sees an endocrinologist for this diagnosis and is on medication when not pregnant or breastfeeding to prevent unwanted lactation. The caller has two children: a three year old son, who nursed for 14 months, and an infant daughter who the mother was currently exclusively breastfeeding. She had started pumping early with her first child and feels that doing so caused her to over produce. The mother reported struggling with extended engorgement and a shallow latch during the first week of her lactation journey. The mother reported that her daughter's latch was painful, and it was determined that she had a tongue-tie. The baby's tongue-tie was released by an ENT specialist, the painful latch immediately resolved, and the engorgement resolved as a result. The mother shared the fact that her daughter (at six weeks of age) had neonatal mastitis and a plugged duct that was expressed per the pediatrician and the baby was treated with an antibiotic for fever.

Mother reports that she has taken care to manage her oversupply. She reports that she usually leaks about 1.5 ounces of milk a day into Milk-Saver bags (bags that adhere to her breast). She also collects the excess milk that is expressed while nursing. Mother reports that she has pumped a couple times out of necessity during this lactation journey, but avoids it unless absolutely necessary. She produces 10 ounces or more per pumping session. At her 8-week follow-up, the mother reported baby was gaining weight, at 11 pounds and breastfeeding about seven times a day. This was an interesting case study from which all staff was able to learn and helped in their practice.

Conferences and Continued Education

August marked National Breastfeeding Awareness Month, with August 1st – 7th designated as World Breastfeeding Week. On August 3rd, TBH staff attended the 2016 Breastfeeding Update organized by the Memphis Area Lactation Consultants Association (MALCA) at Le Bonheur Auditorium. The topic of this update was "Controversies in Clinical Lactation: Bridging Science and Practice," presented by Lawrence "Larry" Noble, MD, FAAP, FABM, IBCLC, RLC and Aunchalee Palmquist, PhD. IBCLC, RLC. Both presentations were informative, and the knowledge gained will enhance practice. This event was also an opportunity to distribute TBH magnets and the Tennessee breastfeeding law cards.

On August 6th, Memphis's local latch on event, "Latch On Memphis," was organized by Kristen Heath and select members from the Breastfeeding Moms of Memphis group. This event was attended by 206 participants and vendors, a new record. Helen Scott volunteered at the TBH booth for this event, and distributed TBH magnets and Tennessee breastfeeding law cards.

On August 17th, TBH held its quarterly CAB meeting with 15 members in attendance. TBH reviewed the annual report, shared program updates, and shared information about related programs, such as the Parent Support Warmline and Nurse-Family Partnership.

Sandra Madubonwu and Helen Scott submitted a poster abstract for the 2016 Tennessee Hospital Association Leadership Summit, which was accepted. They presented their poster October 19th, 2016.

On August 18th, the Memphis Birth Collective (a group that includes individuals involved in the birthing process) invited the TBH staff to meet at Methodist Le Bonheur Germantown Hospital to talk to interested

parents about the TBH. Helen Scott gave an oral presentation about the hotline. There was positive interaction and questions from the 15 attendees. This was also an opportunity to distribute the TBH magnets and Tennessee breastfeeding law cards.

August 21st through the 27th was Black Breastfeeding Week. On August 27th, the BSTARS (Breastfeeding Sisters That Are Receiving Support) held their 2nd annual 3K Walk in Memphis that was well supported. BSTARS meets monthly to support and promote breastfeeding.

On August 25th, TBH staff participated in a retreat to promote teamwork through games, followed by presentations on self-care.

Call Report Changes

Since the previous quarterly report, we have:

- Made no changes to the call report forms.

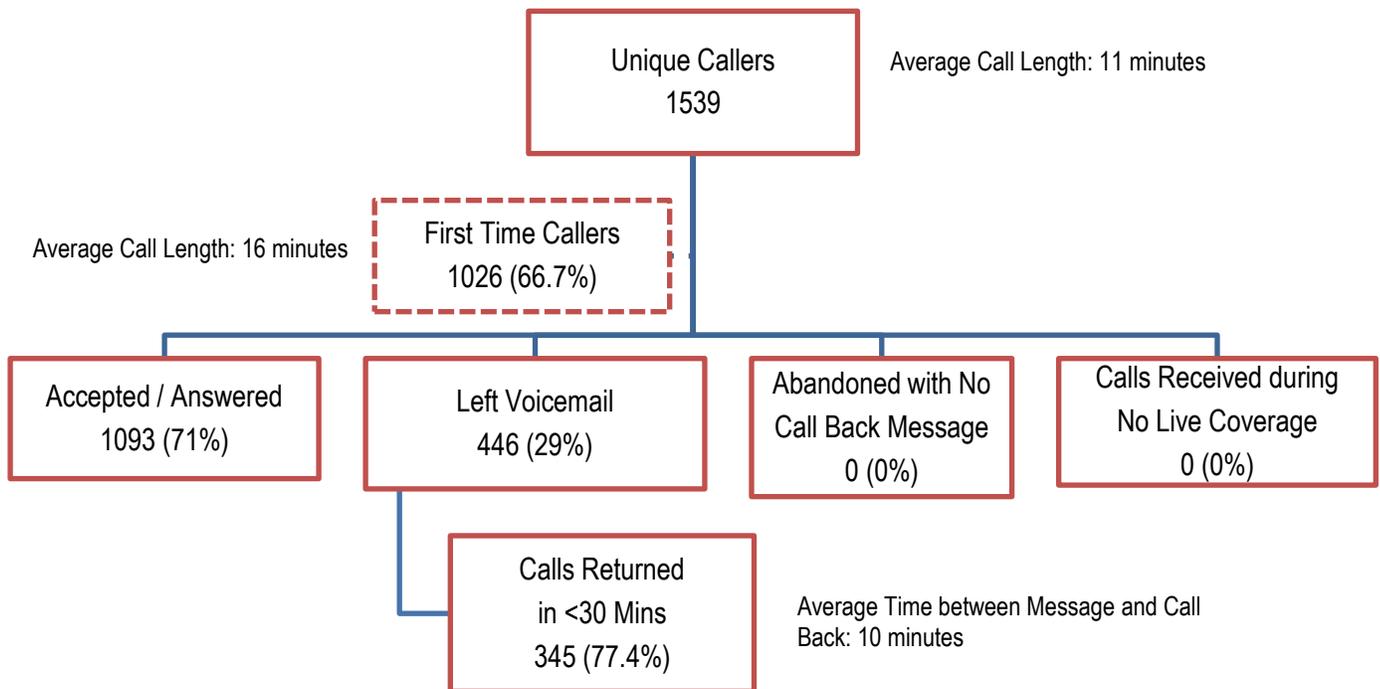
TBH Staff Updates

- Tuwana McDaniel has left the TBH
- Jill Lewis has given up regular TBH shifts, but helps out as needed
- Tracey Davis, CLC, started work with the TBH on August 22nd
- Meredith Raney, BSN, CLC, started work with the TBH on September 15th

Tables and Figures

(1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 1st Quarter (July - September 2016)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from July through September 2016. For the 1st Quarter of SFY 2016, the TBH had 1539 unique callers. Of those total unique callers, about 1026 (66.7%) were first time callers to the TBH. Average call length for all calls was 11 minutes; first-time callers were slightly longer (16 minutes).

Of all calls received, 1093 (71%) were answered and accepted live by TBH staff and 446 (29%) callers left a voicemail. About 77% those voicemail calls were returned within 30 minutes.

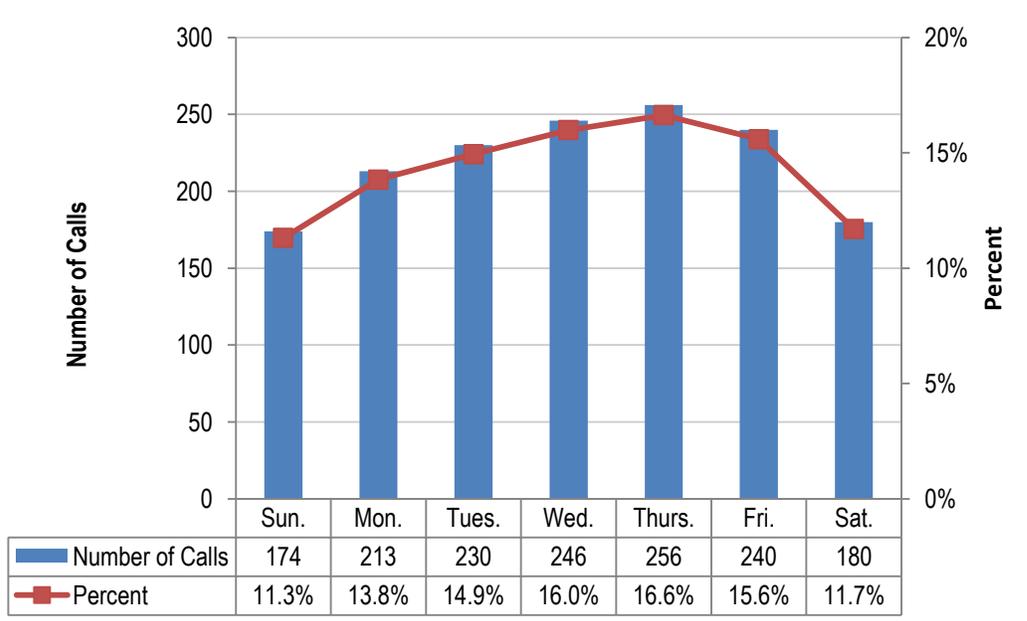
(2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1539)

Time of Call	July	August	September	1st Quarter Totals	1st Quarter Percent
12 AM - 7 AM	40	30	35	105	6.8%
8 AM - 12 PM	138	139	168	445	28.9%
1 PM - 6 PM	229	234	211	674	43.8%
7 PM - 11 PM	101	117	97	315	20.5%
TOTALS:	508	520	511	1539	100%

During the 1st quarter, the majority of calls (43.8%) were received between 1 PM and 6 PM. About 73% of calls were received during the traditional workday (8AM – 6 PM).

Figure 2. Call Volume, by Day of Week (N=1539)



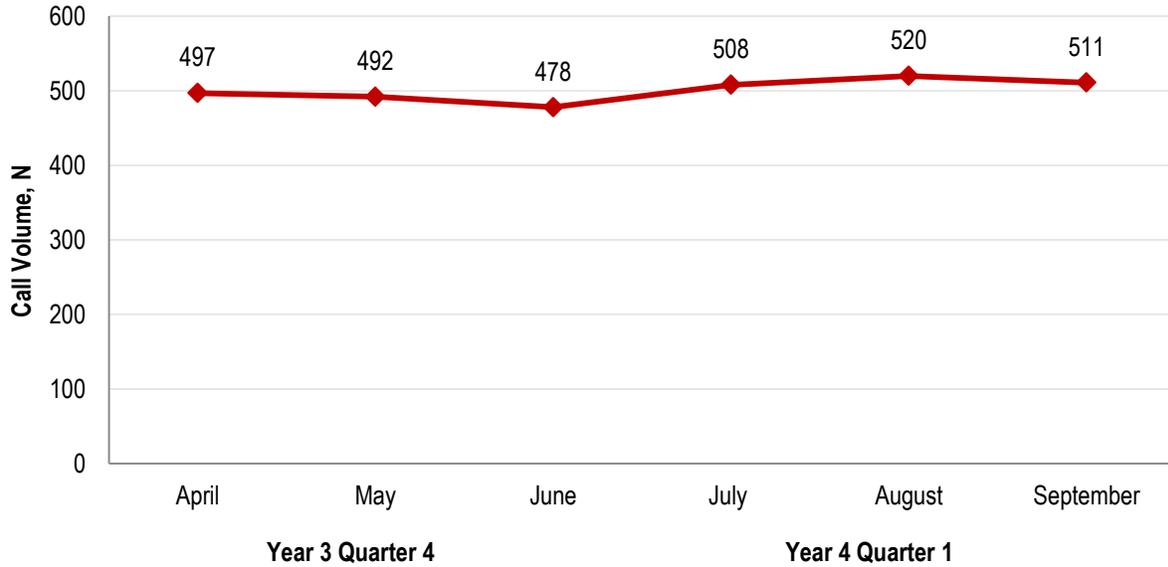
During this quarter, TBH experienced its highest call volume on Thursdays (16.6%). Call volume was lowest on Sundays (11.3%).

Table 2B. Call Volume, by Month (N=1539)

Month	Number of Calls	Percent
July	508	33.0%
August	520	33.8%
September	511	33.2%
TOTALS:	1539	100%

Call volume within this quarter was highest in August, increasing by almost 5% since last quarter.

Figure 2. Call Volume Trend, Previous Quarter (Y3Q4) Compared to Current Quarter (Y4Q1)



Compared to the last quarter of Year 3, this quarter saw a 4.9% increase in calls, increasing from 1467 to 1539.

(3) Call Length

Table 3. Number and Proportion of Calls within 1st Quarter, by Call Length (N=1539)

Length of Call	1st Quarter Totals	1st Quarter Percent
0-9 minutes	661	42.9%
10-19 minutes	655	42.6%
20-29 minutes	164	10.7%
30-39 minutes	43	2.8%
40-49 minutes	9	0.6%
50-59 minutes	4	0.3%
1 hour or more	3	0.2%
TOTALS:	1539	100%

Over 85% of calls lasted between 0 and 19 minutes during the 1st quarter. Three calls lasted more than an hour. These longer calls are usually due to the certified lactation professional having to utilize a language line and interpreter, which can significantly extend call time.

(4) Referrals**Table 4A. Referral Source Reported by Caller (N=1019)**

Referral Source	July	August	September	1st Quarter Total	1st Quarter Percent
Hospital	254	227	262	743	72.9%
Website/Search Engine	35	46	37	118	11.6%
Providers office	34	25	19	78	7.7%
WIC clinic	14	25	19	58	5.7%
Family or Friend	5	10	5	20	2.0%
Brochure	0	1	0	1	0.1%
TV	0	1	0	1	0.1%
Total	342	335	342	1019	100%

Missing or not applicable n=520

During the call, clients were asked how they heard about the TBH. Hospital was the most common source, referring 72.9% of callers, followed by information found on a website or via search engine (11.6%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1496)

Referral Status	July	August	September	1st Quarter Total	1st Quarter Percent
Referred to own provider	44	40	37	121	8.1%
Referred to other provider in the vicinity	3	3	3	9	0.6%
No referral given	448	462	456	1366	91.3%
TOTALS:	495	505	496	1496	100%

Missing or not applicable n=43

The TBH captured information about whether the caller was referred to a provider for their issue. Overall, 8.7% of callers were referred to a provider, predominantly their own.

Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1503)

Medical Reference Given	July	August	September	1st Quarter Totals	1st Quarter Percent
No	480	500	481	1461	97.2%
Yes	17	10	15	42	2.8%
TOTALS:	497	510	496	1503	100%

Missing or not applicable n=36

Only 42 (2.8%) callers were advised by the certified lactation professionals to seek immediate medical attention. Reasons that the mother would have been advised could include if the mother had symptoms of mastitis or a yeast infection, or any issue above and beyond the scope of practice.

Table 4D. Number and Proportion of Callers Referred to a Local Lactation Professional (N=1407)

Referred to a Lactation Specialist	July	August	September	1st Quarter Totals	1st Quarter Percent
No	405	436	419	1260	89.6%
Yes	56	42	49	147	10.4%
TOTALS:	461	478	468	1407	100%

Missing or not applicable n=132

During the 1st quarter, the TBH advised 147 (10.4%) of callers to seek out a local lactation professional.

(5) First Time or Repeat Caller

Table 5. TBH Caller by Call Type (N=1539)

Caller Type	July	August	September	1st Quarter Total	1st Quarter Percent
First Time	339	353	334	1026	66.7%
Repeat Caller	169	167	177	513	33.3%
TOTALS:	508	520	511	1539	100%

The majority (66.7%) of calls received were from first time callers.

(6) Interpretive Services

Table 6. Use of Interpretive Services (N=1539)

Interpretive Services	July	August	September	1st Quarter Total	1st Quarter Percent
Not Used	501	518	505	1524	99.0%
Used	7	2	6	15	1.0%
TOTALS:	508	520	511	1539	100%

Only 15 (1%) of callers required interpretive services. Of those 15 calls, eight were for Spanish-speaking callers, one was for an Arabic-speaking caller, and one call required an "Other" language not listed. The remaining five calls did not denote the language used.

(7) Caller Location**Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1283)**

Region	Total Calls	Percent
Shelby	282	22.0%
Davidson	281	21.9%
Mid-Cumberland	257	20.0%
South Central	77	6.0%
Knox	75	5.8%
East	60	4.7%
Hamilton	58	4.5%
Upper Cumberland	42	3.3%
West	32	2.5%
Southeast	28	2.2%
Sullivan	25	1.9%
Northwest	24	1.9%
Northeast	23	1.8%
Madison	19	1.5%
	1283	100%

Missing n=21

The table above depicts call volume by the Tennessee Department of Health regions during the 1st quarter. There were a total of 1304 (84.7%) calls from Tennessee residents. Of callers who reported a county of residence, 43.9% of resident calls to the TBH were from Shelby and Davidson regions.

Figure 3. Call Volume, by Caller's County of Residence, July to September 2016

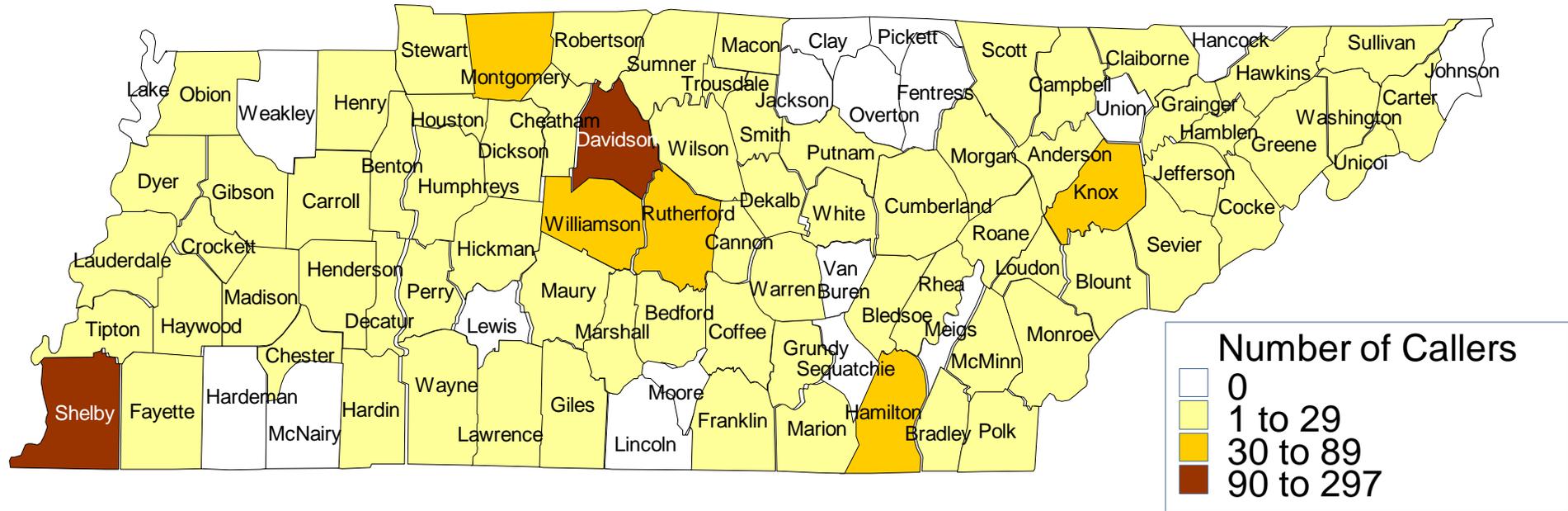
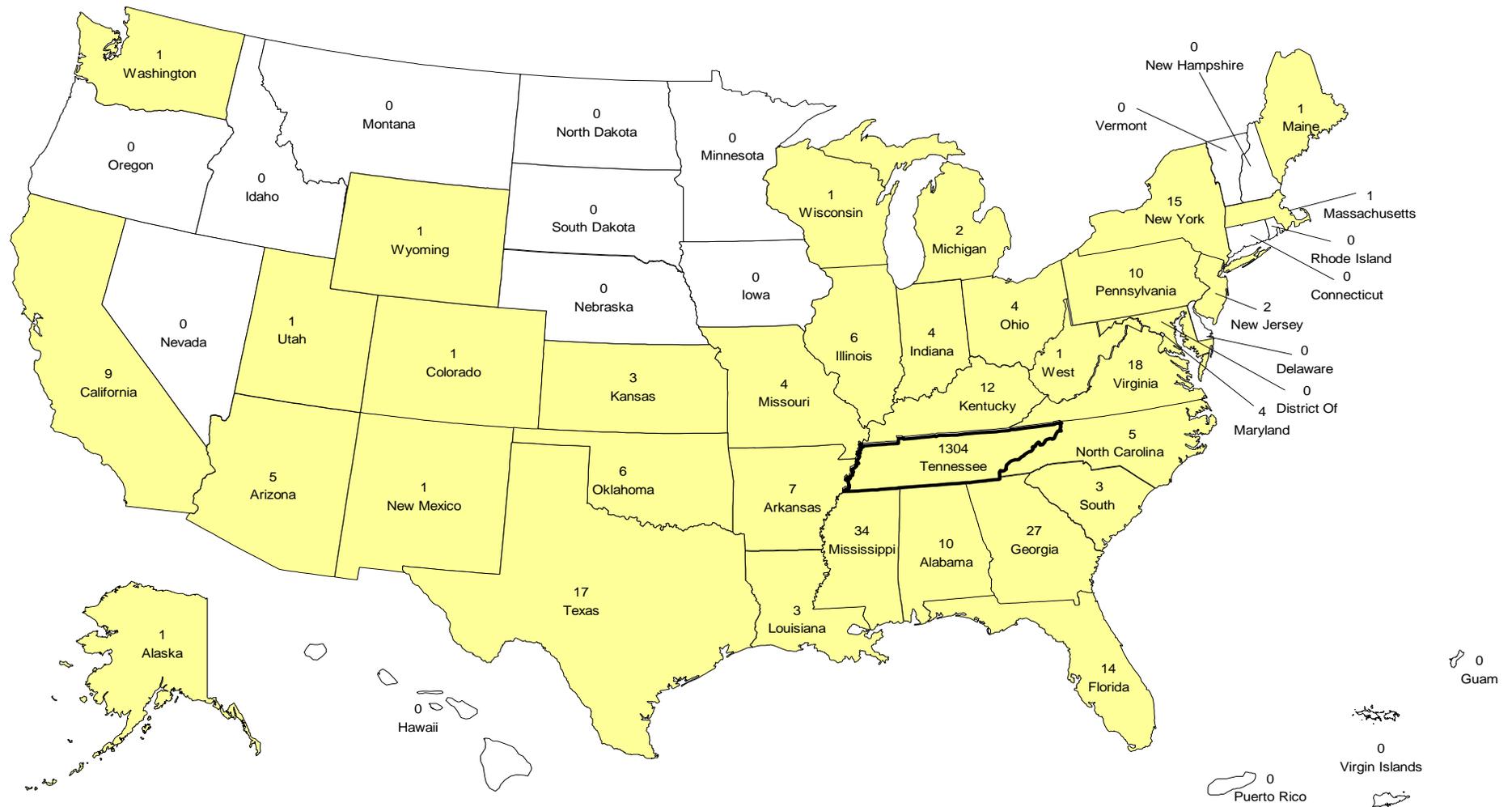


Figure 4. Call Volume, by Caller's State of Residence, July to September 2016



Overall, the TBH received calls from 202 unique counties across 36 states.

(8) Caller's Relationship to Mother

Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1463)

Relationship to Mother	July	August	September	1st Quarter Totals	1st Quarter Percent
Self	453	469	462	1384	94.6%
Spouse or partner	18	9	15	42	2.9%
Family or household member	9	15	3	27	1.8%
Healthcare provider	2	2	6	10	0.7%
TOTALS:	482	495	486	1463	100%

Not applicable n=76

During the 1st quarter, the majority (94.6%) of callers to the TBH were the mothers.

(9) Maternal Age, Race, and Ethnicity

Table 9A. Number and Proportion of Calls, by Maternal Age (N=998)

Maternal Age	July	August	September	1st Quarter Totals	1st Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	1	1	1	3	0.3%
18 - 20	11	7	20	38	3.8%
21 - 25	53	69	60	182	18.2%
26 - 30	151	128	148	427	42.8%
31 - 35	94	92	83	269	27.0%
36 - 40	21	26	21	68	6.8%
41 - 45	2	6	2	10	1.0%
≥ 46	0	1	0	1	0.1%
TOTALS:	333	330	335	998	100%

Missing or not applicable n=541

During the 1st quarter, call volume was highest (42.8%) among mothers between 26 and 30 years.

Table 9B. Number and Proportion of Calls, by Maternal Race (N=1007)

Maternal Race	July	August	September	1st Quarter Total	1st Quarter Percent
White	259	255	238	752	74.7%
Black	55	65	70	190	18.9%
Multiple Races	16	9	11	36	3.6%
Asian	10	6	9	25	2.5%
Native Hawaiian/Pacific Islander	1	0	2	3	0.3%
American Indian/Alaskan Native	0	1	0	1	0.1%
TOTALS:	341	336	330	1007	100%

Missing or not applicable n=532

TBH callers were asked to report maternal race during initial call. Of those who reported race, 74.7% were white, followed by black (18.9%).

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1193)

Ethnicity	July	August	September	1st Quarter Total	1st Quarter Percent
Not Hispanic	391	384	363	1138	95.4%
Hispanic	15	16	24	55	4.6%
TOTALS:	406	400	387	1193	100%

Missing or not applicable n=346

Mother's ethnicity was reported for 1193 (77.5%) calls. Of those with ethnicity documented, 55 (4.6%) callers identified as Hispanic/Latina.

(10) Mother's Pregnancy History

Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=365)

Number of Prior Pregnancies	July	August	September	1st Quarter Total	1st Quarter Percent
1	45	76	81	202	55.3%
2	34	46	35	115	31.5%
3	11	12	11	34	9.3%
4	2	4	4	10	2.7%
5	1	0	0	1	0.3%
6	0	1	1	2	0.5%
7	0	0	0	0	0.0%
8	0	1	0	1	0.3%
9	0	0	0	0	0.0%
10 +	0	0	0	0	0.0%
TOTALS	93	140	132	365	100%

Missing or not applicable n=1174

Of those who reported prior pregnancies, 55.3% women reported just one prior pregnancy.

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=703)

Number of Prior Live Births	July	August	September	1st Quarter Total	1st Quarter Percent
1	122	142	155	419	59.6%
2	58	75	59	192	27.3%
3	21	27	19	67	9.5%
4	8	3	6	17	2.4%
5	1	0	0	1	0.1%
6	3	0	2	5	0.7%
7	0	1	0	1	0.1%
8	0	0	0	0	0.0%
9	0	0	0	0	0.0%
10 +	0	1	0	1	0.1%
TOTALS:	213	249	241	703	100%

Missing or not applicable n=836

Table 10B shows the number and proportion of calls by prior live births of the caller. During this quarter, about 60% of women had only one previous live birth.

Table 10C. Number and Proportion of Calls, by Infant's Gestational Age* at Birth (N=970)

Gestational Age	July	August	September	1st Quarter Total	1st Quarter Percent
< 37 weeks (pre-term)	20	21	16	57	5.9%
37 to <39 weeks (early term)	44	54	67	165	17.0%
39 to <41 weeks (full term)	244	232	220	696	71.8%
41 to <42 weeks (late term)	17	15	18	50	5.2%
> 42 weeks (post term)	1	0	1	2	0.2%
TOTALS:	326	322	322	970	100%

*Recommended classifications from American College of Obstetricians and Gynecologists

Missing or not applicable n=569

Most (71.8%) mothers reported delivering at full-term. Only 5.9% reported delivering prematurely.

(11) Baby's Birth Information**Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1062)**

Age of Infant	July	August	September	1st Quarter Totals	1st Quarter Percent
< 1 week	89	84	92	265	25.0%
1 week - < 1 month	83	81	97	261	24.6%
1 - < 3 months	69	102	81	252	23.7%
3 - < 6 months	35	50	54	139	13.1%
6 - < 9 months	23	31	19	73	6.9%
9 - < 12 months	14	8	13	35	3.3%
12 - 18 months	9	10	5	24	2.3%
19 - 24 months	5	3	5	13	1.2%
TOTALS:	327	369	366	1062	100%

Missing or not applicable n=477

Callers were asked to indicate the age of their infant during initial call to the TBH. Almost half (49.6%) of calls were made when the baby was less than 1 month old.

Table 11B. Number and Proportion of Calls, by Delivery Method (N=422)

Delivery Method	July	August	September	1st Quarter Totals	1st Quarter Percent
Vaginal	76	125	124	325	77.0%
Cesarean	36	32	29	97	23.0%
TOTALS:	112	157	153	422	100%

Missing or not applicable n=1117

Table 11B shows the number and proportion of calls by delivery method during the 1st quarter. 77% of women indicated that they had a vaginal delivery. Thirteen of the callers during this quarter were pregnant at time of the call (delivery method recorded as 'not yet born'). These instances were documented but were excluded with regard to the table above.

(12) Feeding Information**Table 12A. Number and Proportion of Calls, by Breastfeeding Status (N=573)**

Breastfeeding Status	July	August	September	1st Quarter Totals	1st Quarter Percent
Breastfeeding exclusively	91	91	103	285	49.7%
Breastfeeding with supplemental nutrition	42	50	47	139	24.3%
Both breastfeeding and pumping	31	51	39	121	21.1%
Pumping exclusively	6	12	10	28	4.9%
TOTALS:	170	204	199	573	100%

Missing or not applicable n=966

TBH collected information about the breastfeeding status of mothers during initial call. Breastfeeding status was reported for 573 (37.2%) callers. Of the mothers who disclosed their breastfeeding status, just under half (49.7%) were breastfeeding exclusively.

Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=408)

Breastfeeding within 24 Hours?	July	August	September	1st Quarter Totals	1st Quarter Percent
Yes	100	148	141	389	95.3%
No	3	7	9	19	4.7%
TOTALS:	103	155	150	408	100%

Missing or not applicable n=1131

Table 12B shows number and proportion of callers who indicated breastfeeding within 24 hours of delivery. Of the callers who responded, 95.3% of mothers had begun breastfeeding their baby within 24 hours of birth.

(13) Reasons for Calling**Table 13A. Number and Proportion of Calls, by Primary Reason for Call (N=1400)**

Reasons for Calling	July	August	September	1st Quarter Total	1st Quarter Percent
Breast-Related Problems	101	87	90	278	19.9%
Lactation or Milk Concerns	61	77	81	219	15.6%
Maternal Health Behaviors	65	67	74	206	14.7%
Breastfeeding Management	57	56	54	167	11.9%
Milk Expression	39	36	42	117	8.4%
Infant Health Concerns	34	42	36	112	8.0%
Breastfeeding Technique	41	29	28	98	7.0%
Infant Health Behaviors	19	25	21	65	4.6%
Breastfeeding Support	24	23	15	62	4.4%
Maternal Health Concerns	7	13	10	30	2.1%
Medical Condition (Infant)	8	11	10	29	2.1%
Supplemental Nutrition	5	4	8	17	1.2%
TOTALS:	461	470	469	1400	100.0%

Missing or not applicable n=139

Callers were asked to indicate their primary reason for calling the TBH, which TBH categorized into the reasons above (please see Appendix A for classification of individual reasons). During this quarter, 19.9% of calls were regarding breast-related problems (e.g. breast or nipple pain, breast engorgement, or sore nipples) followed by lactation or milk concerns (15.6%). The top five individual reasons for calling the TBH were: medications and breastfeeding, not making enough milk, breast/nipple pain, baby feeding too much/too little, and breast engorgement.

Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=124)

Top Additional Reasons for Calling	July	August	September	1st Quarter Total
Pumping	10	6	5	21
Breast engorgement	4	5	10	19
Sore nipples	4	2	9	15
Appropriate feeding by age/weight	4	6	2	12
Overactive letdown/too much milk	3	3	4	10
Not making enough milk	4	1	5	10
Breast or nipple pain	2	2	3	7
Working and breastfeeding	1	3	3	7
Supplemental feeding	2	2	2	6
Sleepiness (baby)	0	1	4	5
TOTALS:	44	44	36	124

In addition to the primary reason for calling, lactation professionals noted additional questions that were brought up during the course of the call. Many mothers did not bring up additional questions. Top additional concerns were related to pumping and breast engorgement.

(14) Outcomes at Follow-Up

At the end of each initial call to the TBH, the lactation professionals asked the callers if they intended to continue to breastfeed (Results in Table 14A). Continuation of breastfeeding was also asked during the 4-week, 8-week, and 12-week follow up calls (Table 14B).

Also, the lactation professionals asked the caller if they felt more comfortable and/or confident with breastfeeding by the end of the initial call (pg. 22, Table 14D). Similar to the question regarding the continuation of breastfeeding, caller confidence and comfort was also assessed by TBH staff at 4-week, 8-week, and 12-week follow-up calls (pg. 22, Table 14E).

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1333)

Intention to Continue Breastfeeding	July	August	September	1st Quarter Totals	1st Quarter Percent
Yes	427	443	437	1307	98.0%
No	12	7	7	26	2.0%
TOTALS:	439	450	444	1333	100%

Not applicable n =206

When asked about the intention to continue breastfeeding, 1307 (98%) of callers intended to continue breastfeeding at the end of the initial call.

Table 14B. Caller's Breastfeeding Status, by Follow-Up Period

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Still Breastfeeding N (%)
4 week	677	488	189 (27.9%)	165	142 (86.1%)
8 week	649	490	159 (24.5%)	138	119 (86.2%)
12 week	638	468	170 (26.6%)	156	123 (78.8%)

Notes: Reached = # of callers reached out of # of calls attempted

Still breastfeeding = # of callers still breastfeeding out of # of callers who answered the question

During the 1st quarter, TBH attempted a total of 1,964 calls to clients to follow-up about breastfeeding status; only 518 (26.4%) of callers were reached for follow-up.

At the 4-week follow-up, 142 (86.1%) of callers were still breastfeeding. This proportion stays almost the same for callers during the 8-week follow-up (86.2%). Breastfeeding continuation decreases by the 12-week follow-up. Reasons reported by the mothers who ceased breastfeeding during the weeks in between the initial call and the follow up(s) included not making enough milk, baby refusing to latch, going back to work, sore nipples, taking medications, and stress.

Table 14C. Breastfeeding: Exclusive or Supplemental, by Follow-Up Period

Follow-Up Period	Number Still Breastfeeding (from Table 14B)	Answered Question	Supplemented N (%)	Exclusive N (%)
4 week	142	118	27 (22.9%)	91 (77.1%)
8 week	119	105	24 (22.9%)	81 (77.1%)
12 week	123	113	28 (24.8%)	85 (75.2%)

Callers who indicated that they were still breastfeeding during the follow-up call (Table 14B) were then asked if they were breastfeeding exclusively or with supplemental nutrition.

Of the callers who indicated that they were still breastfeeding, more mothers were exclusively breastfeeding their infants during each follow-up period.

Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1311)

Comfort with Breastfeeding	July	August	September	1st Quarter Totals	1st Quarter Percent
Yes	419	445	437	1301	99.2%
No	6	1	3	10	0.8%
TOTALS:	425	446	440	1311	100%

Not applicable n=228

TBH staff reported that almost all (99.2%) callers had increased comfort and confidence with breastfeeding by the end of their interaction.

Table 14E. Caller’s Confidence and Comfort with Breastfeeding, by Follow-Up Period

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Improved N (%)	Did Not Improve N (%)
4 week	677	488	189 (27.9%)	70	68 (97.1%)	2 (2.9%)
8 week	649	490	159 (24.5%)	65	65 (100%)	0 (0.0%)
12 week	638	468	170 (26.6%)	64	64 (100%)	0 (0.0%)

Notes: Reached = # of callers reached out of # of calls attempted;

Improved= # of callers with improved confidence or confidence breastfeeding out of # of callers who answered the question

At the 4-week follow-up, 97.1% of callers reported increased confidence and comfort with breastfeeding, increasing to 100% for the 8- and 12-week follow-ups.

(15) Client Satisfaction with Services

Clients rated TBH services at different intervals: 4 weeks, 8 weeks, and 12 weeks after services had been rendered. Callers were asked to rate their overall satisfaction with hotline services and indicate their likelihood to recommend TBH services to another person.

Table 15. Caller’s Satisfaction and Likelihood to Recommend the TN Breastfeeding Hotline, by Follow-Up Period

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Satisfaction with TBH		Recommend TBH	
				Answered Question	Satisfied N (%)	Answered Question	Likely to Recommend N (%)
4 week	677	488	189 (27.9%)	119	118 (99.2%)	115	114 (99.1%)
8 week	649	490	159 (24.5%)	106	105 (99.1%)	102	101 (99.0%)
12 week	638	468	170 (26.6%)	117	112 (95.7%)	116	116 (100%)

Notes: Reached = # of callers reached out of # of calls attempted;
 Satisfied = # of callers satisfied or very satisfied with TBH services out of # of callers who answered the question
 Likely to Recommend = # of callers likely or very likely to recommend TBH services out of # of callers who answered the question.

Callers were asked to rate their level of satisfaction of TBH from 1 (very dissatisfied) to 5 (very satisfied). Overall, clients were satisfied with TBH services during each follow-up period (range: 95.7% -99.2%). During each follow-up, callers were also asked to indicate their likelihood to recommend the TBH to others (1 - very unlikely to 5 - very likely). Overall, callers were likely to recommend TBH services to another person (range: 99% - 100%).

(16) Texting Follow-Up

In September 2015, TBH began pilot implementation of a texting follow-up program. Texts were sent only after a member of the TBH staff was unsuccessful in reaching the caller via voice call. Texting follow-up consisted of the following message, which was personalized for each caller contacted to include the caller’s name:

“Thank you for taking the time to answer a few questions about your experience with the Tennessee Breastfeeding Hotline. Remember, if you have any questions, feel free to call us at any time at 1-855-423-6667 and we would be happy to help you.”

Results are currently not separated by weeks due to restraints by the texting platform; the TBH is working with iCarol to figure out a solution to this. Furthermore, not all questions asked during the traditional follow-up method were available for texting follow-up. Currently, only information pertaining to breastfeeding status, satisfaction of services, and level of comfort/confidence breastfeeding is captured.

Table 16A. Texting Follow-Up: Caller’s Breastfeeding Status (N=76)

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	76	70 (92.1%)	6 (7.9%)

During the 1st quarter, TBH received 76 follow-up texts regarding breastfeeding status. Of those reached, 70 (92.1%) responded that they were still breastfeeding.

Table 16B. Caller’s Satisfaction with TN Breastfeeding Hotline (N=77)

Follow-Up Method	Texts Received	Satisfied N (%)
Text	77	74 (96.1%)

Note: Satisfied = # of callers satisfied or very satisfied with TBH services

TBH received 77 responses regarding caller’s satisfaction with services provided. Of those reached, 96.1% responded that they were satisfied with services received.

Table 16C. Caller’s Likelihood to Recommend TN Breastfeeding Hotline (N=76)

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	76	73 (96.1%)

Note: Likely to Recommend = # of callers likely or very likely to recommend TBH services

TBH received 76 responses with regard to caller’s likelihood to recommend the TBH to others. Of the 76 responses received, 73 (96.1%) indicated that they were likely or very likely to recommend the TBH to another person.

Table 16D. Caller’s Increase in Confidence/Comfort with Breastfeeding (N=72)

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	72	69 (95.8%)	3 (4.2%)

TBH received 72 responses with regard to caller’s increase in confidence and comfort with breastfeeding. Of the 72 texts received, 69 (95.8%) indicated that they were more comfortable and confident breastfeeding.

Our Team

Meri Armour – President, Le Bonheur Children’s Hospital
Meri provides oversight over the entire hospital.

Nikki Polis - SVP/Chief Nurse Executive Methodist Le Bonheur Health Care
Nikki provides oversight for all the nurses in the MLH system.

Sharon Harris, MSN, RN – Administrative Director, Le Bonheur Children’s Hospital.
Sharon provides oversight of the Maternal Child Department.

August Marshall, M.A. – Evaluation Coordinator
August updates iCarol survey questions as needed, provides general iCarol support to the TBH staff, analyzes hotline data, and helps write and submit quarterly and annual reports.

Cathy Marcinko, M.A. -- Grant Development Coordinator
Cathy assists division departments in researching, developing and submitting funding proposals, and with other assignments, as needed. She has a Masters’ Degrees in Community Planning and in Teaching, and has a BA in Art History.

Christina M. Underhill, Ph.D. -- Program Evaluation Manager for the LCHWB Division
Christina coordinated the creation of the TBH quarterly report format and assisted with the development of the TBH quality improvement plan. She advises on the collection of outcome measures and ensures proper data management.

Gary R. Cook, LCSW -- Director of LCHWB Grant Administration Department
Gary co-authored the TN Breastfeeding Hotline Proposal. He provides contract related and fiscal oversight of the project.

Nicole Gottier, M.A. -- Grant Reimbursement Supervisor
Nicole tracks monthly expenses for the program for correctness, as well as alignment with budget projections, and creates and submits monthly invoices to the State.

Sandra Madubonwu MSN, RN, CLC – Director, Maternal Child Department.
Sandra was involved in the proposal process for the TN Breastfeeding Hotline and played an instrumental role in implementing the program. She provides administrative oversight to all the programs within the Maternal Child Department, including the TBH.

Helen Scott, RN/IBCLC/RLC -- Project Coordinator of the Tennessee Breastfeeding Hotline
Helen coordinates the staff and ensures that the Hotline is working to meet identified purposes and goals.

Medical Lactation Consultant

Dr. Allison Stiles, Internal Medicine & Pediatrics, MD, IBCLC,RLC

Lactation Consultants and Counselors

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Inayah Ahmed, Le Bonheur Community Health and Well-Being

APPENDIX A. Categorization of the Primary Reason for Calling the Tennessee Breastfeeding Hotline

CATEGORIES	REASONS / ISSUES
Supplemental Nutrition: Issues related to complementing breastfeeding with expressed human milk or some other fluid or food	<ul style="list-style-type: none"> • Vitamin D supplementation • Supplemental feeding
Milk Expression: Issues related to taking breastmilk from the mother’s breast without the baby needing to suckle.	<ul style="list-style-type: none"> • Breast pumps and rentals • Exclusive pumping • Milk storage
Breast-Related Problems: Issues or problems mother can experience that are commonly associated with breastfeeding	<ul style="list-style-type: none"> • Breast mass • Breast engorgement • Sore nipples • Breast or nipple pain • Nipple abnormality
Breastfeeding Management: Issues related to the process of maintaining or integrating breastfeeding within a mother’s routine or circumstances	<ul style="list-style-type: none"> • Tandem nursing • Breastfeeding while pregnant • Working and breastfeeding • Managing multiple breastfeeding babies • Weaning • Bottle feeding • Returning to work/school • Baby feeding to much / too little • Breastfeeding device/equipment (e.g. nipple shields)
Breastfeeding Support: Resources, guidance, or laws that can assist with breastfeeding	<ul style="list-style-type: none"> • Public breastfeeding • Donor milk • TN breastfeeding laws • Seeking resources • Pre-birth information / counseling
Breastfeeding Technique: Issues related to mother’s breastfeeding skill	<ul style="list-style-type: none"> • Inability to latch • Breastfeeding technique • Clicking / Noisy nursing
Medical Condition (Infant): Issues related to an infant’s disease, disorder, illness, or complication diagnosed by a health care provider that can impact mother’s ability to breastfeed	<ul style="list-style-type: none"> • Feeding baby with hypotonia • Feeding baby with Down Syndrome • Feeding baby with cleft lip / palate • Jaundice • Late preterm newborn • Managing premature infant breastfeeding • Tongue-tie • Allergies • Baby spitting up (reflux)
Infant Health Behaviors: Issues related to infant’s actions that can impact mother’s ability to	<ul style="list-style-type: none"> • Baby biting breast • Baby refusing to nurse

breastfeed	<ul style="list-style-type: none"> • Distraction during breastfeeding • Sleepiness
Maternal Health Behaviors: Issues related to the practices (choices), of the mother that can impact her overall health and ability to breastfeed	<ul style="list-style-type: none"> • Alcohol use • Substance abuse / Illicit drug use • Smoking / Smoking cessation • Exercise and breastfeeding • Diet • Medications and breastfeeding
Lactation or Milk Concerns: Issues related to mother's anxiety or worry about milk production or quality	<ul style="list-style-type: none"> • Overactive letdown / too much milk • Not making enough milk • Re-lactation • Adoption • Color change in milk
Infant Health Concerns: Issues related to mother's anxiety or worry about infant's health state or condition	<ul style="list-style-type: none"> • Fussiness / Colic • Gassiness • Appropriate feeding by age / weight • Abnormal stools / voids • Lethargy • Weight concerns • Sick baby • Constipation
Maternal Health Concerns: Issues related to mother's anxiety or worry about her own health state or condition	<ul style="list-style-type: none"> • Maternal postpartum vaginal bleeding • Menstruation / Return of menstrual cycle • Maternal sickness • Maternal postpartum depression
Other: An issue indicated by mother that is other than what is currently listed	<ul style="list-style-type: none"> • Specify